

# Bradley Kohler

MECHATRONICS ENGINEER · 3 YEARS OF PROFESSIONAL WORK EXPERIENCE

Waterloo, ON, Canada

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## Skills

Languages	Machine Learning	Microprocessor Firmware	Operating Systems	Hardware Design	Systems Design	Mathematics
BASH	PyTorch	STM32	Linux	Verilog HDL	AutoCAD	Maple18
C/C++/C#	Tensorflow	Nordic	AndroidOS	NI Multisim	SolidWorks	NumPy
Python		Qualcomm	mbedOS	Eagle	Maplesim	Eigen
Java		Simulink	ChibiOS			MATLAB
HTML/CSS/Javascript			FreeRTOS			

## Work Experience

### Labforge Inc.

Waterloo, Ontario

SOFTWARE & FIRMWARE DEVELOPER

May 2020 - Present

- Developed neural network structures, criteria and optimization techniques, achieving good performance in the field.
- Authored new approaches to object re-identification and tracking, creating fast and robust software solutions.
- Improved inertial sensor code bases, running sensor processes as daemons on cameras.
- Worked collaboratively with a team to develop a reliable C/C++ state estimation engine for stereo camera tracking.

### Northern Digital Inc.

Waterloo, Ontario

ADVANCED RESEARCHER & FIRMWARE DEVELOPER

May 2018 - Sept. 2019

- Utilized problem-solving skills and successfully implemented data fusion algorithms on 3D guidance systems.
- Using creative skills, authored new data fusion algorithms for 3D guidance systems achieving NASA level TRL4.
- Worked collaboratively with a team to develop a C/C++ simulator for virtual reality 3D inertial data.

### McMaster University

Hamilton, Ontario

ADVANCED RESEARCHER & TEACHING ASSISTANT

May - Dec. 2015 & May - Sept. 2017

- Demonstrated computer skills by developing embedded C/C++ software for safety critical systems.
- Exercised good organization skills by creating software documentation for system design.

### Emnor Mechanical Inc.

Hamilton, Ontario

SOFTWARE DEVELOPER & MECHANICAL REPAIRMAN & SHOP EMPLOYEE

May - Sept. 2015 & May - Sept. 2016

- Demonstrated good organization skills by developing an inventory management software for the company warehouse.
- Consistently applied attention to detail in managing company payroll, invoices and purchase orders.

## Education

### McMaster University

Hamilton, Ontario

MECHATRONICS ENGINEERING CO-OP

Expected Graduation April 2020

- McMaster Cumulative Grade Point Average 3.5/4.0
- McMaster Engineering Co-op Student of the Year Nominee

## Projects

### Bottlenose

Waterloo, Ontario

DEVELOPER

May 2020 - May 2021

- Trained, Tested and Deployed neural network models on cameras.
- Developed complex state estimation solutions for object tracking.

### Atraxa

Waterloo, Ontario

DEVELOPER

January - Sept. 2019

- Developed the embedded firmware including the drivers, structure and build system for the virtual reality hand remotes.
- Solved complex firmware anomalies with low-level programming knowledge.

### Retina

Hamilton, Ontario

DEVELOPER

Sept. 2019 - April 2020

- Developed Ultra-Wide Band indoor navigation system for the visually impaired.
- Developed backend services for indoor routing and GeoCoding.